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REMARKS

In the Office Action mailed on December 26, 2008, claims 1-39 were rejected. In the present response, claims 1, 14 and 27 have been amended and claim 39 has been canceled. No new matter has been added. Claims 1-39 remain pending in the present patent application. In view of the above amendments and the following remarks, Applicants request further examination and reconsideration of the present patent application.

Rejections Under 35 U.S.C. 101

Claims 14-16 stand rejected under 35 USC 101. Applicants' amended claim 14 is drawn to a computer program product comprising a computer readable media having a computer readable program code embodied therein, said computer readable program code adapted to be executed to implement a method for acquiring an image data set. Applicants submit that claim 14 recites statutory subject matter and respectfully request that the rejection to claim 14 under 35 USC 101 be removed and the claim be allowed. Based at least in part upon their dependency from claim 14, Applicants submit that claims 15 and 16 are similarly allowable.

Rejections Under 35 U.S.C. 103

Claims 1-6, 10-19, 23-31 and 35-39 stand rejected under 35 U.S.C 103(a) as being unpatentable over Suri (US 6,842,638 B1) in view of Liang (US 5,570,404). Claim 39 has been canceled thereby rendering the rejection to claim 39 as moot. For a *prima facie* case of obviousness, the Examiner must set forth the differences in the claim over the applied reference, set forth the proposed modifications of the reference, which would be necessary to arrive at the claimed subject matter, and explain why the proposed modification would be obvious.

Applicants submit that neither Suri nor Liang teach each and every element of amended claim 1. In rejecting Applicants' claim 1, the Examiner stated that Suri does not teach the bone mask being created for a plurality of sub-volumes based upon a spatial relationship between the bone and vascular structures. However, the Examiner cited Liang as teaching a method of separating objects. More specifically, the Examiner stated that Liang subdivides the images into slabs based upon the relationship between the object and the rest of the images. In particular, the Examiner stated that in Liang, each slab is processed differently depending upon the intensity of the pixels of the top image in each slab.

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Applicants amended claim 1 is drawn to a method for generating a bone mask and recites:

acquiring an image data set;
pre-processing the image data set to automatically calculate at least one or more seed points and one or more structure edges;
generating a preliminary bone mask to differentiate bone and vascular structures from the image data set, wherein the preliminary bone mask is generated for a plurality of sub-volumes comprising the image data set, each of the sub-volumes is identified based upon the degree of spatial separation between the bone and the vascular structures in the sub-volume, and wherein differential processing to segment the bone and vascular structures is employed within each sub-volume based upon the spatial relationship between the bone and the vascular structures in the sub-volume;
automatically determining the vascular structure using the one or more seed points, the one or more structure edges, and the image data; and
subtracting the vascular structure from the preliminary bone mask to generate a bone mask.

Support for this amendment may be found e.g., on page 12, lines 7-14 and page 13, lines 20-24. Applicants submit that at the very least, neither Suri nor Liang teach that each of the sub-volumes is identified based upon the degree of spatial separation between the bone and the vascular structures in the sub-volume. In fact, Liang specifically teaches that once a change is made to a top MIP image, the edits made thereto are applied to each CT image in the slice. See e.g., column 3 lines 8-10. For at least this reason Applicants request that the rejection to claim 1 be removed and the claim be allowed. Since independent claims 14 and 27 are similar in form to claim 1, Applicants submit that claims 14 and 27 are likewise allowable for at least the same reasons set forth above. Accordingly, Applicants request the removal of the rejection to claims 14 and 27 and request their allowance. By virtue of their dependency on claims 1, 14 and 27, Applicants submit that claims 2-6, 10-13, 15-19, 23-26, 28-31 and 35-38 are likewise allowable.

As summarized above, all of the independent claims are believed to be patentable over Suri. The VanMetter reference has been reviewed with respect to the 35 U.S.C. 103(a) rejection and does not supply the deficiencies of Suri in regards to the step of generating a preliminary bone mask to differentiate bone and vascular structures from the image data set, wherein the

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preliminary bone mask is generated for a plurality of sub-volumes comprising the image data set, based upon a spatial relationship between the bone and the vascular structures in the plurality of sub-volumes, wherein each sub-volume is differentially processed based upon the spatial relationship between the bone and the vascular structures in the sub-volume.

Applicants have further amended claims 7, 8, 20, 21, 32 and 33 to conform to the amended claim language of independent claims 1, 14 and 27 respectively. Accordingly, claims 7-9, 20-22 and 32-34 are allowable by virtue of their dependency from allowable base claims 1, 14 and 27 respectively, as well as for the subject matter they separately recite. Thus, it is respectfully requested that the rejection of claims 7-9, 20-22 and 32-34 under 35 U.S.C 103(a) be withdrawn.

Should the Examiner believe that anything further is needed to place the application in condition for allowance, the Examiner is requested to contact the Applicants' undersigned representative at the telephone number below.

Respectfully submitted,

/Jason K. Klindtworth/

Jason K. Klindtworth
Reg. No. 47,211

June 26, 2009
General Electric Company
Building K1, Room 3A52A
Schenectady, New York 12301
Telephone: (518) 387-7360
Fax: (518) 387-7751